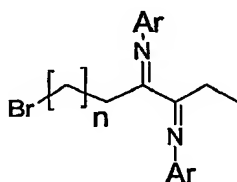


**CLAIMS.**

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1. A method for preparing a supported catalyst component comprising the steps of:

a) providing a halogenated bisimine precursor component of formula (I)



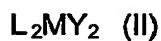
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(I)

b) reacting the halogenated bisimine precursor with an ionic liquid precursor in a solvent to prepare an ionic liquid;

c) reacting the ionic liquid prepared in step b) with a metallic precursor of formula (II)

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wherein L is a labile ligand, M is a metal selected from Ni or Pd and Y is a halogen

d) retrieving a supported single site catalyst component.

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2. The method of claim 1 wherein the ionic liquid precursor is N-alkyl-imidazolium or pyridinium.

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3. The method of claim 1 or claim 2 wherein between step b) and step c), the reaction product of step b) is reacted with an ionic compound  $C^+A^-$ , wherein

$C^+$  is a cation selected from  $K^+$ ,  $Na^+$ ,  $NH_4^+$ , and  $A^-$  is an anion selected from  $PF_6^-$ ,  $SbF_6^-$ ,  $BF_4^-$ ,  $(CF_3-SO_2)_2N^-$ ,  $ClO_4^-$ ,  $CF_3SO_3^-$ ,  $NO_3^-$  or  $CF_3CO_2^-$ .

4. The method of any one of the preceding claims wherein the solvent used  
5 in steps b) and step c) is selected from THF,  $CH_2Cl_2$  or  $CH_3CN$ .

5. A catalyst component supported on an ionic liquid obtainable by the method of any one of claims 1 to 4.

10 6. A catalyst system supported on an ionic liquid comprising the catalyst component of claim 5 and an activating agent.

7. The catalyst system supported on an ionic liquid of claim 6 wherein the activating agent is methylaluminoxane .

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8. The catalyst system supported on an ionic liquid of claim 7 wherein the amount of methylaluminoxane is such that the Al/M ratio is of from 100 to 1000.

20 9. A method for homopolymerising or copolymerising  $\alpha$ -olefins that comprises the steps of:

- a) injecting the catalytic system supported on an ionic liquid of any one of claims 6 to 8 with an apolar solvent into the reactor;  
b) injecting the monomer and optional comonomer into the reactor;  
25 c) maintaining under polymerisation conditions;  
d) retrieving the polymer under the form of chips or blocks.

10. The method of claim 9 wherein the apolar solvent is n-heptane.

30 11. The method of claim 9 or claim 10 wherein the monomer is ethylene or propylene.

12. A polymer under the shape of chips and blocks obtainable by the process of any one of claims 9 to 11.

5 13. The polymer of claim 12 wherein the amount of chips is of less than 25 wt%, based on the total weight of the polymer.